

Noviciæ Indicæ VI. A review of the genus *Colquhounia*.—By D. PRAIN.

[Read May 3rd.]

Writing in 1885 (*Flora of British India*, iv, 674) Sir Joseph Hooker had to say of this genus:—"I am quite unable to distinguish the first three species,\* or to reconcile their specimens, descriptions and published drawings with one another." And in 1890, when engaged in arranging the Calcutta Herbarium material of the natural order LABIATE to which the genus belongs,† the writer, after considerable study came to the same conclusion. Since then, however, the opening up of the hill-country to the east of the Irrawaday has enabled the Calcutta Herbarium to send native collectors into hitherto unknown portions of the Shan Hills. One result has been the communication of suites of specimens that have helped to clear up some of the doubtful points. Briefly stated, the result of a renewed study has been that there seems to be no necessity for recognising more than two species in the genus; both these species are, however, very variable, and include between them seven more or less distinguishable and definable forms. The present paper consists of a short bibliographical review of these with diagnoses of all of them, and with an account of their distribution appended.

The genus COLQUHOUNIA was founded by Wallich in 1822,‡ on specimens collected by himself in Nepal, in honour of his friend Sir Robert Colquhoun, Bart., of the H. C.'s service. His diagnosis, and voluminous description of *Colquhounia coccinea*, the species then proposed, he republished, practically unaltered, two years later,§ giving at the same time a coloured plate which represents however, not the typical plant originally described, but a variety with smaller flowers. In a note at the end of this second description, Wallich distinguishes by name and by a general diagnosis a second species, *C. vestita*. This, he says, comes from various localities in Nepal, at a higher elevation than the stations for *C. coccinea*, and occurs also in Kamaon. He says that *C. vestita* flowers in the height of the rains, *C. coccinea* at the end of the rains and in the cold weather; the main distinction given, however, is one of tomentum; this is described as being in *C. coccinea* scaly-stellate, rusty, dense and friable, in *C. vestita* soft, white, thick and separable.|| The flower-spikes and flowers are admitted to be similar; plainly therefore the distinction is not a far-reaching one.

\* *Colquhounia coccinea* Wall., *C. vestita* Wall., *C. elegans* Wall.† *Journ. As. Soc. Bengal*, lix, 2, 294.‡ *Trans. Linn. Soc.*, xiii, 608.§ *Tent. Flor. Nap.*, i, 12 t. 6.|| *Tent. Flor. Nap.*, i, 14.

The LABIATÆ of the H. E. I. Company's Herbarium were distributed by Wallich in 1829;\* Bentham, who revised for Wallich the naming of this particular order, treated these two species somewhat differently. In *C. coccinea* he recognized three distinct forms:—†

- (1). *C. coccinea* proper; the pink-flowered plant originally described in *Trans. Linn. Soc.*, and re-described in *Tent. Flor. Nap.*
- (2). VAR.  $\beta$ . *major* Benth.; the Nepalese plant from higher levels and with denser tomentum, treated by Wallich as identical with the plant from Kamaon that he distinguished specifically from *C. coccinea*.
- (3). VAR.  $\gamma$ . *parviflora* Benth.; an orange-flowered plant, not clearly differentiated by Wallich in either of his descriptions, but figured by him in the *Tentamen* as typical *C. coccinea*.

On the other hand the name *C. vestita* was strictly limited to the plant from Kamaon already referred to, which had been communicated to Wallich by Blinkworth,‡ and a new species from Burma, *C. elegans*, was for the first time mentioned.§ In the same year Bentham in another place defined the genus, mentioning all three species, but not there distinguishing the varieties of *C. coccinea*.||

In 1832 Wallich again dealt with these *Colquhounias*, figuring both *C. vestita* and *C. elegans*.¶ He diagnosed *C. vestita* from *C. coccinea* by its "ovate-oblong much attenuate acuminate leaves, very densely hoary tomentose below, as are the branches," adding that this character comprises all the points in which *C. vestita* differs from *C. coccinea*. From the original specimens it is evident that this figure of *C. vestita* was taken from one of Blinkworth's Kamaon specimens; Wallich did not however adopt Bentham's limitation of *C. vestita* to that locality, for he replaced in the species the Nepalese plant that forms Bentham's *C. coccinea* VAR. *major*. In immediate sequence come the definition and figure of *C. elegans*, the Burmese species; of this he mentions having only seen one shrub; the best distinction, Wallich says, between this and *C. coccinea*, which it much resembles, is the colour of the flowers—orange, dotted with crimson specks, instead of red. The plant is described as having leaves very softly tomentose on both surfaces, an idea

\* *Lith. Cat.* n. 2084—6.

† *Wall. Lith. Cat.* n. 2085/1, 2085/ $\beta$ , 2085/ $\gamma$ .

‡ *Wall. Lith. Cat.* n. 2086.

§ *Wall. Lith. Cat.* n. 2084.

|| *Bentham, Synops. Labiat.* in *Bot. Reg.*, xv, sub 1292.

¶ *Plant. As. Bar.*, iii, 43, tt. 267, 268.

by no means conveyed by the figure, which represents a plant that, as Sir Joseph Hooker says,\* cannot be distinguished from *C. coccinea* VAR. *parviflora*. These two plants are however remarkably dissimilar in tomentum, the hairs being stellate in VAR. *parviflora*, as they are in all the other forms of *C. coccinea*, but simple in *C. elegans*. As regards the degree of tomentum of *C. elegans* it is the description that is accurate, the figure that is misleading.

In 1834 Bentham again dealt with the genus†, and on this occasion still confined *C. vestita* to the Kamaon plant of Blinkworth, though in *C. coccinea* he now recognized only two forms:—

- (1). *C. coccinea* proper, which now includes the original plant described by Wallich, as well as the Nepalese portion of Wallich's *C. vestita*; this variety therefore now includes the original *C. coccinea* and Bentham's own *C. coccinea* VAR. *major*.
- (2). VAR.  $\beta$ . *parviflora* Benth., which is the same as the plant so named in 1829.

The Burmese *C. elegans* is defined in the Wallichian sense.

In 1848 Bentham‡ followed in the main his treatment of 1834, but as regards *C. coccinea* confined the Wallichian number 2085 to VAR. *parviflora* alone, although, as we have just seen, this number applies in the *Catalogue* to every specimen of *Colquhounia* collected in Nepal. Under *C. vestita* also Bentham diverged somewhat from his previous treatment by admitting into the species a plant sent by Griffith from Assam. This is, however, a plant that must be kept specifically apart from *C. vestita* if *C. vestita* deserves to be held specifically distinct from *C. coccinea*; while, even if *C. vestita* and *C. coccinea* be conspecific, this Assam plant is still varietally distinct from both.

In 1850 Sir William Hooker figured§ as *C. coccinea* a plant raised at Kew from seed sent by Wallich from Nepal. This is the plant originally figured by Wallich in the *Tentamen*, and therefore is not exactly the one originally described by him there and in the Linnean Society's *Transactions*; it is not typical *C. coccinea*, but is Bentham's *C. coccinea* VAR. *parviflora*.

In 1851 Schlechtendal described|| as *C. mollis* a plant whose origin he was unable precisely to trace. His description is, however, so full

\* *Flora of British India*, iv, 674.

† *Labiat. Gen. & Sp.* 644.

‡ *DC. Prodr.*, ii, 457.

§ *Bot. Mag.*, lxxvi, t. 4514.

|| *Linnaea*, viii, 681.

and clear as to leave no room for doubt that his plant is identical with the Assam one referred by Bentham to *C. vestita*.\*

In 1873 Houillet figured as *C. tomentosa*† what appears to be the same plant.

In 1876 Bentham and Hooker speak of the possible existence of a fourth species‡; it is not clear whether by this fourth species be meant Schlechtendal's *C. mollis*, which is cited indirectly through a reference in Walpers; or a Burmese plant collected by Mason, Parish, Anderson and Kurz since published as *C. tenuiflora* Hook. f.§ but which in 1877 Kurz|| described as *C. elegans*. Kurz wrote under the disadvantage of only knowing Wallich's plant from the figure which Wallich gives of it; that figure, as has already been said, is quite misleading.

The next account to be noticed is the most important of all—that by Sir Joseph Hooker in the *Flora of British India*. Here four species are described:—

1. *C. coccinea* Wall.; with Bentham's VAR. *parviflora* excluded.
2. *C. vestita* Wall.; limited, in the sense adopted by Bentham in 1848, to the Kumaon plant of Wallich and the Griffithian plant from Assam,¶—the Nepal plant originally included in *C. vestita* being excluded and Schlechtendal's *C. mollis* not being referred to; the identity of *C. vestita* as a whole with typical *C. coccinea* is suggested.
3. *C. elegans* Wall.; limited to the original Wallichian plant from the Taong DOUNG Mts; its identity with *C. coccinea* VAR. *parviflora* Benth., is suggested.

\* There are two minor references to the genus by Walpers, *Annales* iii, 363 (1852) where he mentions *C. coccinea*; and *Annales* v, 689 (1858) where he gives Schlechtendal's diagnosis of *C. mollis*: this last reference is cited in the *Genera Plantarum* though the original description in *Linnaea* is not.

† *Houillet, Rev. Hort.* (1873) p. 131. It should, however, be pointed out that Sir Joseph Hooker does not agree with the writer's view in this respect. He refers Houillet's plant to *C. coccinea* (and it may be that form of *C. coccinea* called by Bentham VAR. *major*); Griffith's plant is referred in the *F. B. I.*—as Bentham referred it—to *C. vestita*; *C. mollis* is not quoted in Sir Joseph's article.

‡ *Genera Plantarum*, ii, 1208.

§ *Flor. Brit. Ind.*, iv., 674. This form—apparently more common than true *C. elegans*—extends from Tenasserim to Yunnan. In the Calcutta Herbarium it is in evidence that at one time Kurz thought this distinct from the *C. elegans* of Wallich's description—of which he had no specimen—and proposed naming it *C. martabanica*. Later, he decided that it must be the *C. elegans*, of Wallich's figure, which it resembles, as to tomentum, rather more closely than the true plant does.

|| *For. Flor. Brit. Burma*, ii, 278.

¶ In Mr. C. B. Clarke's Herbarium this Assam plant is distinguished from the Kumaon *C. vestita* proper, as *C. vestita* VAR. *rugosa* C. B. Clarke MSS.

4. *C. tenuiflora* Hook. f. ; the new species referred to above.

Two more recent references to the genus have now to be noticed.

Mr. Hemsley in his *Index Sinensis*\* mentions one species ; this he identifies, though rather doubtfully, with *C. coccinea*. The plant comes from Hupeh, South China, and the same form has more recently been collected in the Kya Valley, Upper Burma, by Genl. Gatacre. It is not *C. coccinea*, but is much more nearly allied to *C. elegans* ; though a very distinct form, it is probably quite sufficiently differentiated if treated as a variety of the last named species.

Sir Henry Collett and Mr. Hemsley in a paper *On a Collection of plants from Upper Burma and the Shan States*† mention two species :—

1. *C. elegans* Wall. ; the true Wallichian plant, never met with since it was collected by Wallich till it was obtained in 1887 by Genl. Collett, who speaks of it as certainly the most beautiful *Labiata* of the Shan Hills. Like *C. coccinea* VAR. *mollis* (*C. mollis* Schlecht.) this is always an erect shrub;‡ as regards colour of flowers there are two distinct forms, one with pale salmon-coloured, the other with dark red corollas.
2. *C. vestita* Benth., not of Wallich ; not the true Wallichian plant, but Schlechtendal's *C. mollis*, Mr. Clarke's *C. vestita* VAR. *rugosa*.

The generic descriptions given by Wallich, Bentham, Schlechtendal and Hooker are so accurate and full that nothing can be added to them, and little is necessary beyond providing brief diagnoses of the various forms met with in the genus. Of these last there are altogether seven, and though in this paper they are treated as only of varietal rank, it may well be that other writers will find it necessary to consider them distinct species ; indeed, as species at present go in the natural order LABIATÆ, it cannot be denied that forms so very distinct as the real *C. vestita* of Kamaon and as Hooker's *C. tenuiflora* are well entitled to the higher ranks. But what has to be pointed out very distinctly is that on those who may feel compelled to give this higher rank to these species of Wallich and of Hooker, it will be incumbent to recognise also

\* *Journ. Linn. Soc.*, xxvi, 299 (1890.)

† *Journ. Linn. Soc.*, xxviii, 1-150 (1890),

‡ Genl. Collett remarks (*Journ. Linn. Soc.* xxviii, 8) on the discrepancy between this fact and the definition by Kurz (*For. Flor. Brit. Burma*, ii, 278) of *C. elegans* as 'a scandent or half-scandent shrub.' Kurz's definition however does not in the least refer to Wallich's original plant but to that other form collected by himself in Pegu, named by Sir Joseph Hooker *C. tenuiflora*, which is always a scandent plant.

Schlechtendal's *C. mollis*, and to give specific rank to that very distinct new form collected in Northern Burma by Gatacre and in South China by Henry.

It is remarkable that the character from tomentum which has been mainly relied upon—and with rather unsatisfactory results—in diagnosing the various species, should still prove the most effective and reliable. It has, however, to be noted that hitherto only the degree of tomentum and not its nature has been referred to, the difference between the simple hairs of the *C. elegans* series and the stellate hairs of the *C. coccinea* series of forms having been overlooked.\*

### COLQUHOUNIA WALL.

NAT. ORD. LABIATAE.

Tribe. STACHYDEAE.

Tall, robust, rambling herbs with rounded branches. *Leaves* ovate, margins dentate or crenate, petioled, acute or acuminate, base cuneate, rarely truncate or cordate, tomentose, as are the branches, with stellate or simple hairs. *Whorls* axillary, or in dense or lax-flowered spikes or racemes, of pink, orange, or scarlet, concolorous or spotted flowers. *Calyx* distinctly 10-nerved, equally 5-toothed, throat naked. *Corolla* tube incurved not annulate, throat inflated; galea entire or more rarely notched, shorter than the almost equally 3-lobed lower-lip. *Stamens* 4, ascending under the upper lip, the lower pair longer; anthers con-niving in pairs, the cells divaricate, confluent. *Disc* equal; *style* shortly 2-fid with subequal lobes. *Nutlets* oblong, compressed, with the tip produced as a submembranous wing.

#### 1. COLQUHOUNIA COCCINEA Wall., *ampl.*

Tomentum of stellate hairs on stems and leaves; hairs on the corolla many-celled, glandular at the tip; wings of nutlets sub-laciniate, not longer than body of nut; calyx teeth triangular.

HIMALAYA: INDO-CHINA.

VAR. *a. typica*; leaves dentate-crenate, tomentum white, usually sparse, ultimately almost disappearing; flowers large, pink or red. *C. coccinea* Wall., Trans. Linn. Soc., xiii, 608 (1822); Tent. Flor. Nap., i., 13, *fig. excl.* (1824); Cat. n. 2085/1 (1829); Benth., Bot. Reg., xv., *sub* 1292 (1829); Lab. Gen. & Sp. 644 (1834): DC. Prodr., xii, 457 (1848); Walp., Ann., iii, 268 (1852): Hook. f., Flor.

\* The co-ordinate difference in the nature of the glandular hairs on the corolla, which is as striking, was pointed out to the writer by his friend Mr. Brühl, who kindly went over the forms after they had been sorted out.

Brit. Ind., iv, 674 (1885). *C. coccinea* VAR. *β. major* Benth. in Wall. Cat. n. 2085/ $\beta$  (1829). *C. vestita* Wall., Tent. Flor. Nap., i, 14, (1829), and Pl. As. Rar., iii, 43 (1832), in part and excluding the Kamaon locality and the figure.

NEPAL; on Gossain Than, Wallich! Scully! and Sheopore, Wallich! SIKKIM: Jongri, King's collector! and Lachen, Hooker! G. Gammie! KHASIA: Mairung, Hooker and Thomson! Mann!

A shrub 8-10 feet high, erect when standing alone but of sprawling habit and semi-scandent when growing with other species. In the form originally issued as VAR. *β. major* Benth., the tomentum is white as in *C. vestita*, and unusually dense, while the flowers are generally of a rather paler pink than in the specimens originally intended as typical, where the leaves are often ultimately quite glabrous from an initial rusty pubescence, and the flowers are dark red. Both forms have, however, similarly shaped dentate-crenate leaves, and in both the wings of the nutlets are nearly as long as the body of the nut. These are the forms to which, in spite of his figure, it would be necessary to restrict Wallich's name *C. coccinea*, if *C. vestita* and the others are distinct species.

VAR. *β. vestita* Prain; leaves (sometimes cordate at the base) crenate, crenations large, tomentum dense, floccose, white, separating in patches but not disappearing completely; flowers large pink. *C. vestita* Wall., Tent. Flor. Nap., i, 14 (1824) in part, the Kamaon plant only; Pl. As. Rar., iii, 43, t. 267 (1832) as to fig.; Wall., Cat. n. 2086 (1829): Benth., Bot. Reg., xv, sub 1292 (1829); Lab. Gen. & Sp. 644 (1834); DC. Prodr., xii, 457 (1848) excl. the Assam plant: Hook. f., Flor., Brit. Ind., iv, 674 (1885) the Kamaon plant only.

KAMAON; Srinagar, Blinkworth! Naini Tal, Anderson! Mussoorie, King! Kali valley, Duthie n. 3308! CHUMBI; at Tak-Chang, King's collector!

Like the preceding this is according to circumstances erect or semi-scandent. The flowers are pale red as in *C. coccinea β. major*, where also the tomentum is white. The leaves, however, (which in *C. vestita* are crenate, none of the crenations being sharp pointed) enable us to distinguish easily the two forms. The gathering from Chumbi has the thinner tomentum of *C. coccinea β. major*, but the leaf-margins are crenate not serrate; it thus serves to connect *C. coccinea* with *C. vestita*.

VAR. *γ. parviflora* Benth.; leaves and flowers smaller than in the type, tomentum rusty, flowers orange or golden yellow, with orange red lobes. *C. coccinea* Wall., Tent. Flor. Nap., i, t. 6 (1824) the fig. only; Hook., Bot. Mag. t. 4514 (1850). *C. coccinea* VAR. *parviflora* Benth. in Wall., Cat. n. 2085/ $\gamma$

(1829); Lab. Gen. & Sp. 644 (1834); DC. Prodr., xii, 457 (1848).

NEPAL; on Sheopore, *Wallich!*

Scandent; this variety is represented only by specimens collected by Wallich; the leaves have larger teeth and somewhat resemble those of *C. elegans*, which is however always a shrub. It is quite as entitled to specific rank as is *C. vestita*; if treated as a species it ought to be known as *C. parviflora*.

VAR. *δ. mollis* Prain; leaves crenate, crenations very small, tomentum dense, rusty, permanent; flowers large, orange or red. *C. mollis* Schlecht., *Linnaea*, viii, 681 (1851); Walp., *Ann.*, v, 689 (1858). *C. tomentosa* Houlet, *Rev. Hort.*, (1873), 131. *C. vestita* Benth., DC. Prodr., xii, 457 (1848) *not of Wall.*, *the Assam plant only*: Hook. f., *Flor. Brit. Ind.*, iv, 674 (1885) *excluding the Kamaon plant*; *not of Wall.*: Collett & Hemsley, *Journ. Linn. Soc.* xxviii, 116 (1890); *not of Wall.*, *C. vestita* VAR. *rugosa* C. B. Clarke Mss.

SIKKIM; Balasun, *King's collector!* BOOTAN; *Griffith!* MISHMI; *Griffith* n. 4028 (*Kew Dist.*)! KHASIA; Mairung, *Simons!* Oldham! *Clarke* n. 16138! Shillong, *Mann!* *Collett!* Dingling, *Clarke* n. 5900! Cherra, *Hooker and Thomson!* *Clarke* n. 5322! MANIPUR; Kassome, *Watt* n. 5123! BURMA; Shan hills at Pwehla, *Collett!*

An extremely distinct form, always a shrub, and easily recognised by its stout virgate habit and by its nutlets with very short wings. This might be still considered specifically distinct even if *C. vestita* were merged in *C. coccinea*, and if looked upon as a good species it ought to bear the name *C. mollis* Schlecht. The leaves differ from those of *C. coccinea* in being always crenate, and from those of *C. vestita* in the small size of the crenations, and in the rusty, not white, tomentum.

## 2. COLQUHOUNIA ELEGANS Wall., *emend.*

Tomentum of simple hairs on stems and serrate leaves; hairs on the corolla few-celled, glandular at the base; wings of nutlets entire, acute, longer than body of nut; calyx teeth acuminate.

INDO-CHINA; S. CHINA.

VAR. *a. typica*; whole plant densely, softly tomentose; flowers in very dense many-flowered axillary heads; corolla dark-red or salmon-coloured, with or without crimson spots, tube long, throat wide. *C. elegans* Wall., *Cat. n.* 2084 (1829); Benth., *Bot. Reg.*, xv, *sub* 1292 (1829); Wall., *Pl. As. Rar.*, iii, 43, t. 268 (1832); Benth., *Lab. Gen. & Sp.* 645 (1835); DC. Prodr., xii, 457 (1848); Hook. f., *Flor. Brit. Ind.*, iv, 674 (1885); Collett & Hemsley, *Journ. Linn. Soc.* xxviii, 116 (1890).



MANIPUR; Sirohifurar, *Watt* n. 7443! BURMA; Taong Doung Mts., *Wallich*; Shan Hills at Toungye, *Collett*! at Mone, *Manders*! *Fulton*! at Lwekaw, *Manders*! Ruby Mines district, frequent, *King's collectors*!

A shrub, 8 to 10 feet high, and apparently never scandent; the flowers are sometimes red (*Collett, King's Collectors*) sometimes salmon-coloured with crimson spots (*Wallich*) sometimes uniformly salmon-coloured (*Collett, Fulton, Manders*).

VAR.  $\beta$ . *pauciflora* Prain; almost glabrous throughout, flowers in loose few-flowered axillary heads; corolla red, tube very short, throat wide. *C. coccinea* Hemsl., Journ. Linn. Soc., xxvi, 299 (1890) *not of Wall*.

S. CHINA; Ichang, *A. Henry* n. 3334! BURMA; Kya Valley, *Gatacre*!

A very distinct, always scandent form, with a much more slender habit than the preceding; the nutlets are however not distinguishable, and the tomentum is of precisely the same character, though so much slighter in degree. If this is treated as a distinct species, which will be necessary if specific rank continues to be claimed for *C. tenuiflora*, it might be known as *C. pauciflora*.

VAR.  $\gamma$ . *tenuiflora* Prain; sparsely hairy throughout, flowers in loose many-flowered long axillary racemes; corolla red, tube very long, throat narrowed. *C. tenuiflora* Hook. f., Flor. Brit. Ind., iv, 674 (1885). *C. elegans* Kurz, For. Flor. Brit. Burma, ii, 278 (1877) *not of Wallich*. *C. martabanica* Kurz Mss. in Herb. Calcutta.

S. CHINA; Yunnan, *Anderson*! BURMA; Poneshee *Anderson*! Pegu, *Kurz*! Karenni, *Mason*! TENASSERIM; Moulmein, *Parish*!

Also a very distinct form; in habit exactly like the last, but with much longer flowers than even in the type, and with an absolutely, as well as relatively, narrower corolla-throat. Distinct, however, though the form is it is not convenient to give it specific rank, as this would necessitate the recognition of *C. parviflora*, *C. mollis*, and *C. pauciflora* as distinct species also.